The Creation of a French-Language Glossary to Aid in the Instruction of Specialized Undergraduate Courses in Biology

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Introduction
When taking a course on a specialized sub-topic of Biology, such as Zoology or Botany for example, a principal challenge to the students is in having to learn hundreds of new subject-specific terms for the various forms of structure and function.

When the language of instruction is non-English, this burden on the students is compounded due to a lack of supporting learning resources, such as textbooks, websites or glossaries in that language. At the University of Ottawa, most courses in Biology at the undergraduate level are offered in both English and French, allowing students to pick and choose the language of instruction on a course by course basis. Despite the bilingual status of uOttawa as an institution, the student experience in either language’s streams is often quite different.

In order to assess whether or not the students of Biology at uOttawa consider there to be discrepancies between the English and French versions of their academic programs, in both 2010 and 2011, I polled the 2nd year students of the core program French-language Zoology class for their perceptions of the two language streams offered to them. Having taken at least ten undergraduate courses in either English or French by that point in their scholastic career, they were in a good position to provide feedback on the perception of inequality between the streams on behalf of the student body.

Evaluation of Glossary Use and the Potential for Increased Learning
In both 2010 and 2011, I polled the outgoing students of the same 2nd year Zoology class on their perceived usefulness of the Glossary for their studies. Once they had used the Glossary for a whole term, I asked them their feelings on its benefits on two levels: firstly to get an indication of how and how much they were using the Glossary and secondly, to get an index of the potential for the use of the Glossary to contribute to increased learning in those students that used it.

Students said:

<table>
<thead>
<tr>
<th>Year</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
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Glossary Use Leads to Increased:

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<tr>
<th>Specialty</th>
<th>Year</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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</thead>
<tbody>
<tr>
<td>Quality of Instruction</td>
<td>2010</td>
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<tr>
<td>Prof-Student Contact</td>
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<td>2010</td>
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<td>Available Resources</td>
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<td>2010</td>
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Conclusion and Future Directions
Clearly, there is a perceived need for the development of additional specialized learning resources in French for the students enrolled in Francophone Biology classes. Additionally, when resources are offered to them, they are happy to use them and that use increases the learning potential in those students, according to some of the criteria laid out by Chickering and Gamson (1987).

In order to rectify this resounding inequity of supplementary specialized learning resources available to the francophone students of Biology at uOttawa, I created an online glossary of biological terms to accompany the instruction of specialized courses in biology taught in French.

Now Available as an App on iTunes
In order to provide this learning resource to the students in a format that meets their up-to-date technological expectations, in 2011, I had the Glossary made into a smartphone app that is now for sale via the iTunes App Store. This Glossary app allows for access to the database 24/7 without the need for being online at the time, further increasing the potential for students to access learning resources at any time outside of the University classroom.

Acknowledgements
Many thanks to Dr. Christiane Charest, Ms. Julie Nadeau, Top Quark Productions, the Undergraduate students of Biology at the uOttawa for their help in building and improving upon the Glossary. This project was made possible by a generous grant from the Centre for University Teaching.

Reference:

For more information visit: www.adamoliverbrown.com

Glossary Contents
The glossary currently contains more than 1200 specialized terms, covering the various fields of Zoology, Ecology, Evolution, Physiology, Genetics and Environmental Science among others.

For each term, there is a definition, its English counterpart, etymological origin (for terms of Greco-Roman origin), list of related terms, hyperlinks to terms found within the glossary and Internet links to supplementary online resources, such as YouTube videos and information pages. Furthermore, in order to develop Science Communication skills in the students, the terms are accompanied by contextual uses and pertinence, which help to explain how to use the specialized terms in one context vs. another, where applicable.

Glossary was Useful
Would be Happy to Have for Other Courses
Important Learning Resource
Independent Learning
Effectiveness of Study Time
Understanding of Requirements

Student Perceptions:

<table>
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Better in English: No Difference: Better in French

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Current globalized technology and our adoption of i-technologies for the creation of specialized learning resources may allow for a greater amount of access internationally through the internet.

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Since its launch in the spring of 2011, the app has been downloaded several dozen times by users in Canada, the USA, Europe and Australia. The adoption of i-technologies for the creation of specialized learning resources may allow for a greater amount of access internationally through the Internet.

Use this QR code on your smartphone to get a direct link to the app on the iTunes App Store.

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